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A differential diagnosis in chronic lower abdominal pain

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ABSTRACT

INTRODUCTION: Spigelian hernias represent 0.12–2.4% of all abdominal wall hernias. Its diagnosis is elusive and requires a high level of conjecture given the disease rarity, vague associated abdominal complaints and frequent lack of consistent physical findings.
PRESENTATION OF CASE: A 60-year-old woman presented with a history of chronic pain in the left lower side of the abdomen. The patient was treated for several diseases with no relief of symptoms. Abdominal ultrasound showed a Spigelian hernia in the lower left abdomen and surgery was scheduled for treatment.
DISCUSSION: A SH is generally an inter-parietal hernia, meaning that the pre-peritoneal fat and the hernia sac penetrate the trasnversus abdominis and internal oblique muscles but remain behind the external oblique aponeurosis. In most of the patients the lack of clinical signs demands radiological investigation. That's the importance of the high grade of suspicious of the disease during the physical exam. The surgical repair is necessary due to the high risk of incarceration-related complications which can occur in up to 21% of cases.
CONCLUSION: It's important to think in the Spigelian hernia as cause of lower abdominal pain to prompt indicate surgical repair and provide the patient's symptom relief. Also the type of repair is dependent on the surgeon's choice and also the means available in each center.
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1. Introduction

Spigelian hernia (SH), also known as "spontaneous lateral ventral hernia" or "hernia of semilunar line" is a hernia through the spigelian fascia, which is the aponeurotic layer between the lateral edge of the rectus abdominis muscle medially and the semilunar line laterally.[1–3] It was first recognized by Klinkosh in 1764,[4] and named after the Belgian anatomist van den Spieghel, who was the first to describe the semilunar line or linea Spigeli in 1645.[1]

It represents 0.12–2.4% of all abdominal wall hernias.[1] Since 1980, there have been increases of reports of the disease due to better imaging modalities as sonography and computerized tomography (CT). This has lead some researchers, since 1950, to conclude it is more of a misdiagnosed disease instead of rare one.[3]

The clinical diagnosis is complicated due to the fact it continues to expand laterally and caudally between two oblique muscles or beneath the external oblique aponeurosis demanding radiological investigation.[2]

2. Case report

A 60-year-old woman presented with a history of pain in the left lower side of the abdomen that worsened when in the upright position and during walks. The patient's discomfort subsided for a year and a half with constant rest. In this period she was treated for ureteral lithiasis, in which it was not confirmed through a radiological exam. Patient was also treated for arthritis, achieving only slight relief of pain due to analgesic use. During the physical exam there was no clinical sign of lump or pain in abdominal palpation in rest. But, applying Valsalva maneuver, mild pain was referred to the left lower side of the abdomen and worsened with palpation even though no lump or mass was identified.

An abdominal wall ultrasound was scheduled for further evaluation. The radiological finding showed a SH with a sac ring of 0.7 cm in the lower left abdomen (Fig. 1).

During surgery, after opening the external oblique muscle aponeurosis, it was identified the hernia sac with omentum (Fig. 2). Then it was isolated from the pre-peritoneal fat.

The hernia sac (Fig. 3) was brought back to the abdominal cavity and the hernia ring was approximated and a pre-peritoneal non-absorbable polypropylene mesh was applied to treat the defect (Fig. 4). Some tacks sutures to fixate the mesh above the abdominal defect was also performed.

The patient evaluated with no postoperative complications and was discharged from the hospital the next day.

Abbreviations: CT, computerized tomography; SH, Spigelian hernia.

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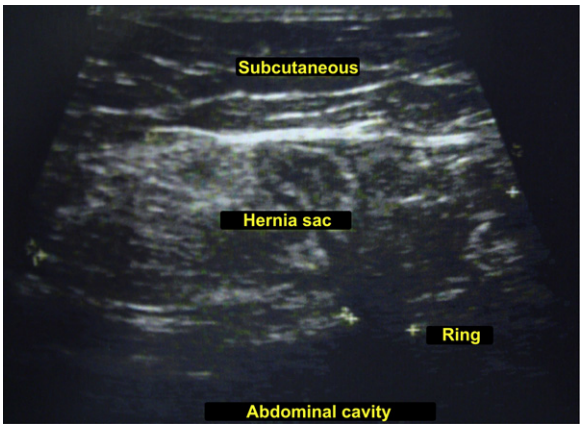

Fig. 1. Abdominal wall ultrasound showing Spigelian hernia.

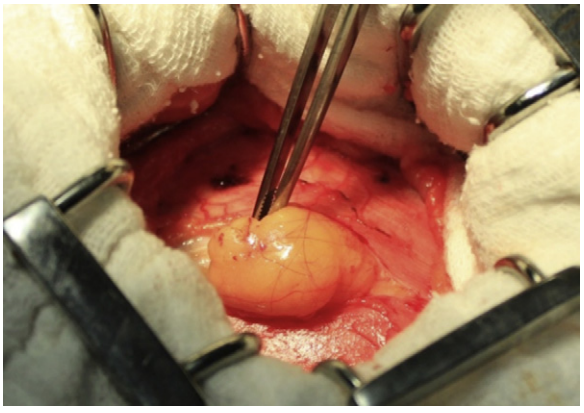

Fig. 2. Hernia sac after opening the external oblique aponeurosis.

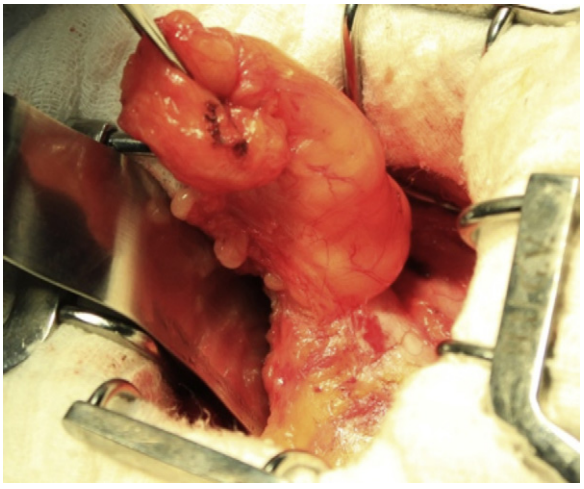

Fig. 3. Hernia sac with omentum isolated.

3. Discussion

A SH is generally an inter-parietal hernia, meaning that the pre-peritoneal fat and the hernia sac penetrate the trasnversus abdominis and internal oblique muscles but remain behind the external oblique aponeurosis.[1] In fact, 90% of SH are found within the Spigelian hernia belt of Spangen which is a 6 cm transverse strip above the line joining both anterior superior iliac spines, and where the spigelian fascia is wider and weaker.[1] Most of them occur in the lower abdomen due to the posterior sheath of the rectus muscle.[2]

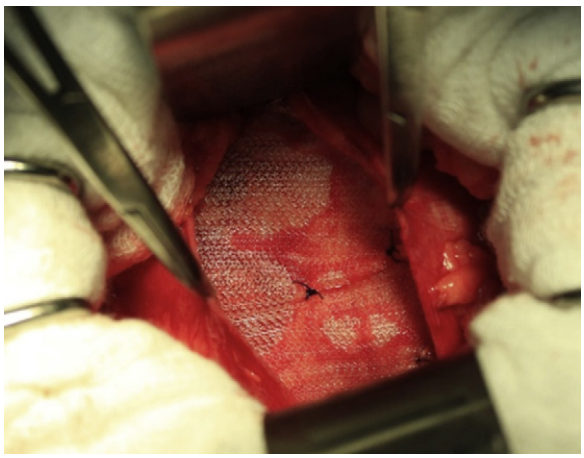

Fig. 4. Pre-peritoneal mesh.

In most of the patients the lack of clinical signs demands radiological investigation. The ultrasonography is accurate in displaying defects in the spigelian fascia.[1] Some physicians even recommend it as a first line imaging investigation[2] due to its dynamic capability, ability to perform real time examination in both supine and upright positions and while patient performs a Valsalva maneuver,[5] but still it is operator dependent. Now CT scanning with close thin sections is considered the most reliable technique to make the diagnosis in doubtful cases. In some cases when, even after CT, the diagnosis remains unclear, diagnostic laparoscopy may be performed offering almost 100% of accuracy.[6]

The surgical repair is necessary due to the high risk of incarceration-related complications which can occur in up to 21% of cases.[7–9] Various techniques have been described and are currently performed. Traditionally the open surgery with transverse incision and primary tissue repair – Wantz's procedure – has been accomplished often with low tension and recurrent rates. The addition of mesh, intra or pre-peritoneal, has led to improved outcomes. Laparoscopic repair was first reported in 1992 by Carter and Mizes.[2] Intra-peritoneal, trans-abdominal, pre-peritoneal and total extra-peritoneal laparoscopic techniques with underlay mesh placement have been described. Studies have shown a significantly lower morbidity, shorter hospital stay and low recurrences rates.[1,8]

Before selecting a mesh for an individual patient, a surgeon must take into account patient characteristics and mesh properties to determine the appropriate treatment in order to avoid abdominal postoperative complications and recurrences.[10] Recently this issue along with whether is necessary or not the mesh's fixation to the abdominal wall have been discussed mainly in inguinal hernia repair in order to diminish the risk of chronic pain after surgery.[11–13] In the review by Sajid et al., no fixation was comparable with tacker fixation in terms of operation time, post-operative pain and complications and chronic pain and address that no fixation may be adopted routinely and safely during laparoscopic repair.[14] But Köckerling in a Letter to Editor comment in the same journal also depicts the Guidelines for laparoscopic and endoscopic treatment of inguinal hernia by the International Endohernia Society which states that for big direct and indirect defects the mesh should be fixated.[15]

In the approach described in this paper the authors choice was to use tack sutures fixation due to, recalling the physical or mechanical properties of mesh materials, the shrinkage and strain probability.

The type of repair is dependent on the surgeon's choice[7] and also the means available in each center.

Conflict of interest statement

None.

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Ethical approval

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contributions

Marcos Duarte Siosaki contributed to study design, data collections, writing and image collecting, Márcia Maria Hagge Costa Coelho contributed to data analysis, writing, Higino Felipe Figueiredo contributed to data analysis, Messias Froes da Silva Junior contributed to study design, writing, and Rubem Alves da Silva Junior contributed to data analysis.

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